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09/405,921	09/24/1999	MARK L. YOSELOFF	307.026US1	1046

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EXAMINER
ASHBURN, STEVEN L

ART UNIT	PAPER NUMBER
3714	36

DATE MAILED: 06/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/405,921

**Applicant(s)**

YOSELOFF ET AL.

**Examiner**

Steven Ashburn

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 19-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 19-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

***DETAILED ACTION******Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 5, 2004 has been entered.

***Claim Rejections - 35 USC § 103***

Claims 1-17 and 19-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hedrick et al., U.S. Patent 6,135,884 (Oct. 24, 2000) in view of RTD USA, <www.rtdusa.com> (1998) (hereinafter "RTD") and Mardsen et al., *Development of a PC-Windows Based Universal Control System*, 5<sup>th</sup> Intl. Conf. on FACTORY 2000, 2-4 April, 1997, Conf. Pub. No. 435 (hereinafter "Mardsen").

*Hedrick* discloses a retrofittable wagering game apparatus employing a game controller comprised of general purpose computer components. *See fig. 6; col. 10:41-11:11*. The reference teaches that it is desirable for a gaming machine to be easily modified with new games or features and thereby maintain a player's desire to play a particular game. *See col. 2:61-3:5*. In addition, it would be beneficial to reduce the costliness and inconvenience of updating thematic displays on gaming machine glass. *See id.* Accordingly, *Hedrick* describes an improved apparatus and method for controlling the content of various necessary displays in a gaming machine for both primary and secondary game events, as well as other new applications. *See id.*

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In regards to claims 1, 19, 22, 27, 28, 31, 32, 33, 35: *Hedrick* teaches the following features:

- a) A computerized game controller operable to control a computerized wagering game. *See fig. 5-7.*
- b) A video display device and/or slot display device providing a visual display representation of a signal provide by a computerized game controller such that the video display devices displays at least one image selected from the group of (i) computerized wagering game status information and (ii) symbol elements that change with the play of the wagering game. *See fig. 5-7, 12(a), 13(a)(b).*
- c) A communications port communicatively couple to the computerized game controller. *See fig. 5-7.*
- d) An interface assembly comprising on or more user interface devices. *See id.*
- e) An input/output (I/O) interface adapter configured to communicatively couple the interface assembly to the communications port and convert at least some signals between the interface formats supported by the interface assembly and the universal controller. *See id.*
- f) A communication port connected to gaming peripherals in communication with the computerized gaming controller. *See id.*
- g) A computerized game controller monitoring through a communication port at least one of coins in/out, currency in/out, debit/credit and cashless events. *See id.*

As listed above, *Hedrick* describes a gaming device having embedded controller comprised of general purpose computer. *See, e.g., fig. 6.* *Hedrick* teaches or suggests all the features of the claims except an interface assembly communicatively coupled to the controller's communication port wherein the interface assembly provides plurality of interface formats such that the controller can control systems via the I/O interfaces and includes a connector for connecting to peripherals. Regardless, this feature would have

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been obvious at the time of the invention when the prior art is taken as a whole by one of ordinary skill in the art.

Commonly, PC-based controllers are embedded in commercial, industrial and military systems. To control such systems, embedded controllers require means to interface with a variety of external devices. In some applications, a PC's standard interfaces are sufficient. However, in most applications PC-based controllers require an additional I/O means to allow them to interface with various types of devices such as switches, buttons, motors, sensors, lights, relays, etc. Moreover, because external devices produce and receive data in different formats, embedded controllers typically include means to condition data to a format employed by a particular device. For example, digital I/O devices commonly include means to buffer, latch or invert a digital signal. Likewise, analog I/O devices commonly include means to scale analog I/O signal within the range used by an external device. A wide variety of commercial-off-the-shelf (COTS) embedded controllers were available at the time of the invention.

*RTD* describes a family of commercial-off-the-shelf components for embedded control systems. The system includes PC-based controllers, I/O interfaces and signal conditioning modules based on the PC/104 standard. *See p. 3.* The controller modules include various PC-type communication ports including serial, Universal Serial Bus, parallel, and ps/2. *See pp. 6-10.* The controller modules are designed to link with a variety of interface assembly modulus. These modules provide functions including for signal conditioning, analog I/O and digital I/O. *See pp. 2, 3, 17-24, 47.* One of ordinary skill in the art of gaming devices at the time of the invention would possess knowledge of these and similar commercially available systems performing embedded control, data acquisition, and signal conditioning.

In particular regards to the claims, *RTD* teaches an interface assembly communicatively coupled to the controller's communication port wherein the interface assembly provides plurality of interface formats such that the controller can control systems via the I/O interface and includes a connector capable

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of being connected to peripherals. *See pp. 2, 17-24.* Hence, the claimed features not taught by *Hedrick* would be within the knowledge of an artisan. However, mere knowledge of these systems does not necessarily suggest employing them in a gaming device. Regardless, the suggestion to employ a PC-based embedded controller in a gaming device was within the ordinary knowledge of an artisan at the time of the invention.

The benefits of modular and reusable controllers are well recognized throughout commercial, industrial, and military applications. An gaming artisan would possess knowledge that using a PC-based embedded controller would benefit a gaming system by providing an adaptable system that would reduce the time and cost required to retrofit legacy systems as well as the development of new systems. For example, *Mardsen* describes the development of a PC-based, universal control system for industrial control. In particular, the reference teaches that taking advantage of the controller's inherent adaptability which allows one controller to be used for many tasks with few changes to the hardware. *See p. 1.* As a result, the use of a "universal controller" may be used as a retrofit of existing systems or as part of a completely new system. *See p. 2.* Because of the variety of applications and hardware, the user only need select the modules required for a specific application. *See id.* *Mardsen* suggests that a universal controller would benefit a wide range of commercial applications and is not merely limited to industrial control. *See p. 3.* Thus, *Mardsen* demonstrates that it was generally known at the time of the invention to employ "universal", pc-based embedded controllers and thereby reduce the time and cost of to simplify the retrofitting and development of systems.

In view of *RTD* and *Mardsen*, it would have been obvious to one of ordinary skill in the art of gaming at the time of the invention to modify the controller described in *Hedrick*, wherein an embedded, pc-based controller controls a gaming device, to employ an interface assembly communicatively coupled to the controller's communication port wherein the interface assembly provides plurality of interface formats such that the controller can control systems via the I/O interface and including a connector

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capable of being connected to peripherals. As suggested by the *Mardsen*, the modification would provide a PC-based system for performing embedded control, data acquisition, and signal conditioning and thereby reduce the time and cost of retrofitting and development of systems.

In regards to claim 2: *Hedrick* additionally teaches having the game controller be a IBM PC-compatible computer system. *See fig. 6(621)*.

In regards to claims 3 and 12: *RTD* additionally teaches an I/O interface assembly operatively connected to a PC's parallel port (ISA) and converting signals from one voltage level to another, inverting signals, multiplexing or decoding signals and converting signals between formats. *See pp. 2, 3, 17-24 and 47*.

In regards to claim 4: *Hedrick* additionally teaches a gaming device having user interfaces including buttons and a touch-screen. *See fig. 5-7*. Additionally, it describes a slot machine configuration. *See fig. 12-13(a)* However, it does not describe user interface including slot-machine arms or joysticks. Regardless, it is notoriously well known in gaming devices provide user interfaces including buttons, slot machine arms, touch screens, and joysticks. Consequently, it would have been obvious to an artisan at the time of the invention to modify *Hedrick* to add the features of slot machine arms and joysticks to provide users with interface devices appropriate for the game configuration.

Furthermore, it is implicit that the controller performs functions necessary to convert signals between formats supported by various interface assemblies including encoding signals, converting signals from one voltage level to another, inverting signals, multiplexing or decoding signals. As seen in figures 5 and 6, the controller exchanges data between a data bus (647) a variety of formats including digital (522, 633), RF (615), NTSC (615), serial (653), parallel (657), audio (659), PCMCIA (637), IDE (645).

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The above functions are implicitly required to execute the conversion between formats. Notably, *RTD* provides I/O modules that perform these functions. See pp. 17-24.

In regards to claims 5 and 6: *Hedrick* additionally teaches a credit management device including coin acceptors, coin recognition systems, currency acceptors, currency recognition systems, credit card readers, smart card readers and security device. See *fig. 5; col. 6:18-35, 7:6-20; 9:1-20*.

In regards to claims 7 and 8: *Hedrick* additionally teaches security devices including tilt switches and device integrity switches. See *col. 12:35-58; 18:30-44*. However, it does not describe spurious electrical discharge detectors. Regardless, it is well known in the art to incorporate detectors into gaming machines to protect system integrity caused by, for example, power failures or surges. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify *Hedrick*, to add the feature of a spurious electrical signal detector to protect gaming system's integrity due to power failures or surges.

In regards to claim 9, 29 and 34: The combination of *Hedrick* with *RTD* and *Mardsen* is described above. See *supra*. In regards to claimed method reconfiguring a computerized wagering game, *Hedrick* describes a reconfigurable wagering game designed to be reduce the cost and effort required to provide new features to maintain or increase a players interest. See *col. 2:61-3:5*. *Mardsen* describes a universal embedded controller adaptable to a wide variety of applications including retrofitting existing systems to reduce to the cost and effort of development. See *pp. 1-2*. Furthermore, retrofitting with a universal controller overcomes the inflexible nature of a legacy controller and the redesign costs limiting to its original, special purpose. See *p. 1*. *RTD* describes a variety of controllers, data acquisition modules, signal conditioning modules and harnesses for interfacing a PC-based, embedded controller in



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In regards to claims 7 and 8: *Hedrick* additionally teaches security devices including tilt switches and device integrity switches. See *col. 12:35-58; 18:30-44*. However, it does not describe spurious electrical discharge detectors. Regardless, it is well known in the art to incorporate detectors into gaming machines to protect system integrity caused by, for example, power failures or surges. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify *Hendrick*, to add the feature of a spurious electrical signal detector to protect gaming system's integrity due to power failures or surges.

In regards to claim 9, 29 and 34: The combination of *Hedrick* with *RTD* and *Mardsen* is described above. See *supra*. In regards to claimed method reconfiguring a computerized wagering game, *Hedrick* describes a reconfigurable wagering game designed to be reduce the cost and effort required to provide new features to maintain or increase a players interest. See *col. 2:61-3:5*. *Mardsen* describes a universal embedded controller adaptable to a wide variety of applications including retrofitting existing systems to reduce to the cost and effort of development. See *pp. 1-2*. Furthermore, retrofitting with a universal controller overcomes the inflexible nature of a legacy controller and the redesign costs limiting to its original, special purpose. See *p. 1*. *RTD* describes a variety of controllers, data acquisition modules, signal conditioning modules and harnesses for interfacing a PC-based, embedded controller in

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commercial and industrial systems. As a whole, the prior art suggests retrofitting a gaming device with a universal, pc-based, embedded controller having data acquisition modules, signal conditioning modules and harnesses allowing flexible control over a variety of systems and requiring few changes to the system hardware to support new tasks. However it does not describe the particular steps of performing the retrofit. Regardless, these steps are within the ordinary skill of an artisan and would have been obvious at the time of the invention.

As stated above, *Marden* suggests retrofitting an universal controller as a replacement to an existing, special-purpose controller. *See p. 1*. The “retrofit” implicitly contains fundamental steps including (i) removing the original special-purpose processor used to control the original system while leaving the legacy components including peripherals, sensors, motors, interfaces and harnesses; (ii) inserting the new, universal controller; (iii) interfacing the universal controller with the legacy components; and (iii) performing validation and verification of the retrofit to ensure the system works as designed including verifying of communication between the processor and the components through the interfaces and harnesses.

Consequently, in the method of configuring a gaming device suggested by the combination of *Hedrick* with *RTD* and *Mardsen*, wherein a universal controller is retrofit into a gaming device, it would have been obvious to an artisan at the time of the invention to perform the steps of:

- a) Removing an original special-purpose computerized game controller used to control a computerized wagering game from the apparatus wherein the original computerized game controller was designed to and capable of working exclusively with a particular game apparatus and at least some interface devices on the apparatus, the peripherals having been connected to the original computerized game controller through a wiring harness that is not removed when the original processor is removed. It is clearly within the ordinary skill of an artisan to reuse legacy components including preexisting cables, harnesses and other interfaces to reduce to level of

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rework involved in retrofitting a legacy system. Towards that end, *RTD* offers a variety of interface cables, terminal blocks and other adapters. *See pp. 47-49.*

- b) Inserting a universal computerized game controller operable to control a video wagering or slot game that can be played on the gaming apparatus and an input/output interface the operatively couples the universal controller to user interface devices of the game apparatus wherein the I/O interface adapter is configured to communicatively interface to the universals controller's communication ports (i.e. serial, parallel, network, digital acquisition, signal conditioning) and thereby convert signals between interface formats or perform buffering and latching of signals.
- c) Sending signals from the computerized game controller through the input/output interface and harness communicate between the computerized game controller and the user interface devices wherein some communication is performed though a wiring harness that is not removed.

As taught by *Marden*, retrofitting existing systems by replacing a special purposed controller with a universal embedded controller adaptable to a wide variety of applications allows the system flexibly perform different tasks with few changes to hardware and thereby reduce the cost and effort of modifying a system.

In regards to claims 10 and 35: *Hedrick* additionally teaches the step of, after sending signals, the video gaming apparatus enables a video display associated with the game apparatus to provide a visual representation of a signal provided by the computerized game controller such that the video display device displays at least on visual image selected from the groups of (a) computerized game status information (e.g. credits, time, score) and (b) symbol elements that change with the play of the wagering game. *See fig. 12-13(a).*

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In regards to claim 11: *Hedrick* additionally teaches having the game controller be a IBM PC-compatible computer system. *See fig. 6(621).*

In regards to claim 13: *Hedrick* additionally teaches security devices including tilt switches, device integrity switches and spurious electrical discharge detectors. *See col. 12:35-58; 18:30-44.* It is implicit that a detection of a spurious electrical signal that halt game process execution will be detected and cause a tilt condition.

In regards to claims 14, 15 and 23: *Hedrick* additionally teaches a credit management device including coin acceptors, coin recognition systems, currency acceptors, currency recognition systems, credit card readers, and smart card readers. *See fig. 5; col. 6:18-35, 7:6-20; 9:1-20.*

In regards to claims 16 and 17: *Hedrick* additionally teaches security devices including tilt switches, device integrity switches and spurious electrical discharge detectors. *See col. 12:35-58; 18:30-44.* It is implicit that a detection of a spurious electrical signal that halt game process execution will be detected and cause a tilt condition.

In regards to claims 20 and 21: *RTD* additionally teaches an embedded mother board.

In regards to claim 23 and 31: *Hedrick* additionally teaches peripherals including coin acceptors, coin recognition systems, currency acceptors, currency recognition systems, credit card readers, smart card readers and security device. *See fig. 5; col. 6:18-35, 7:6-20; 9:1-20.*

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In regards to claims 24 and 25: *Hedrick* additionally teaches a port connected to a computer to execute and control for peripherals. *See fig. 5-7.*

In regards to claim 26: *Hendrick* additionally teaches a video gaming apparatus. *See fig. 12-13(a).*

In regards to claim 30: *Hendrick* additionally teaches a video gaming apparatus coin acceptors, coin recognition systems, currency acceptors, currency recognition systems, credit card readers, smart card readers, security device game operating code and a store of images. *See fig. 5-7, 12-13(a).*

In regards to claims 36 and 37: *RTD* additionally teaches I/O interfaces having digital logic to convert signals between protocols.

### ***Response to Arguments***

Applicant's arguments filed January 5, 2004 have been fully considered but they are not persuasive.

The applicant argues that *RTD* does not qualify as prior art. The examiner respectfully disagrees, it has been established that the information described in the reference was published on or before April 22, 1999. *See papers no. 27 and 31.*

In response to applicant's argument that *Mardsen* is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for

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rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992).

In this case, Mardsen supports the examiner's assertion of what level of knowledge possessed by an artisan. Its relevance is discussed in the Office Action dated Sept. 29, 2003 (paper no. 28) on pp. 4, 5, 11 and 12.

Furthermore, the applicant argues that the rejection fails because gaming devices are an independent field of commerce and industry and therefore preclude references from analogous fields which have already solved the problems sought to be overcome by the present invention. The examiner disagrees. The gaming devices are merely a type of device which employ electronic computers to control a device's operations. The examiner maintains that a gaming artisan would possess knowledge of commercially available control systems and would consider their application in analogous fields of industry.

Furthermore, the applicant raises the new argument that Hendrick does not disclose all the features stated in the examiner's rejection. The examiner disagrees. Figures 5-7 illustrate a variety of peripheral devices having a variety of formats in communication with a ISA Bus (647). At least some of the signals are converted from their original format to the ISA Bus format through the illustrated interfaces. See, e.g., fig. 6(637,641,645,649,651). In addition, it is well known that the illustrated controller comprised of a standard components including a 80486-type processor, ISA Bus, DUART, Super I/O interface are used in a tremendous number of industrial and commercial systems. Hence, the controller is within the scope of a universal controller as disclosed in the applicant's specification. Moreover, one cannot show non-obviousness by attacking the references individually. The combination of Hendrick, RTD and Mardsen collectively suggest a universal controller. See the Office Action dated Sept. 29, 2003 (paper no. 28) on pp. 12-13.

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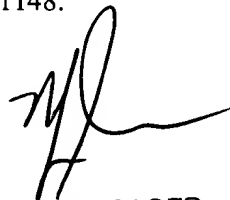
Consequently, for all the reasons above, the applicant's arguments are unpersuasive.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Ashburn whose telephone number is 703 305 3543. The examiner can normally be reached on Monday thru Friday, 8:00 AM to 4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, Primary Examiner's Jessica Harrison can be reached on 703-308-2217. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 1148.

s.a.  
June 8, 2004



MARK SAGER  
PRIMARY EXAMINER